



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/823,762	04/03/2001	Hisayoshi Fujimoto	KIX0142-US	9115

28970 7590 03/24/2003

BRETT C. MARTIN
1650 TYSONS BOULEVARD
MCLEAN, VA 22102

EXAMINER

O NEILL, GARY W

ART UNIT

PAPER NUMBER

2873

DATE MAILED: 03/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/823,762

Applicant(s)

FUJIMOTO ET AL.

Examiner

Gary O'Neill

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: *Detailed Action*

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Burger (5973844).

Burger discloses, as in claim 1, a lens array unit (fig.23) comprising: a first lens array (510b1) provided with a plurality of first convex lenses (505b) and a first transparent holder (#324, fig.18) formed integral with the first lenses, each of the first lenses having first and second lens surfaces; a second lens array (510b2) provided with a plurality of second convex lenses and a second transparent holder (#324, fig.18) formed integral with the second lenses, each of the second lenses having third and fourth lens surfaces, the second lens array being separate from the first lens array and attached (fig.18) to the first lens array so that the third lens surfaces face the second lens surfaces; and a light shield (col.30, lines 39-67) mounted on the first lens array and provided with a plurality of through-holes facing the first lens surfaces; wherein the light shield (512) is located on a side of the first lens array located away from the second lens array (fig.23).

Art Unit: 2873

Burger discloses, as in claim 2, the lens array unit wherein the first and second lens surfaces of the first lens array are convex in opposite directions, the third and fourth lens surfaces of the second lens array being also convex in opposite directions (fig.23).

Burger discloses, as in claim 3, the lens array unit, wherein each of the through-holes has a dark-colored inner wall surface (col.30, lines 39-67, opaque).

Burger discloses, as in claim 4, a lens array unit wherein the light shield is made of a dark-colored resin material (col.30, lines 39-67, opaque by chemical).

Burger discloses, as in claim 5, the lens array unit wherein the light shield and the first lens array are provided with engaging means including a recess and a projection (340a) fitted into the recess (fig.18).

Burger discloses, as in claim 6, the lens array unit wherein the light shield is attached to the first lens array in a stretched state (col.30, lines 39-67).

Burger discloses, as in claim 7, the lens array unit wherein the light shield (512) includes a plurality of segments connected to extend in a predetermined direction (col.30, lines 39-67).

Burger discloses, as in claim 8, the lens array unit wherein adjacent ones of light shield segments overlap with each other in a thickness direction perpendicular to a predetermined direction (col.30, lines 39-67, trench etching and backfill or other physical processing).

Burger discloses, as in claim 9, the lens array unit wherein the segments are equal in configuration and size to each other (fig.23).

Burger discloses, as in claim 10, the lens array unit wherein each of the first lens surfaces is convex and at least partially projects into a relevant one of the through-holes of the light shield (fig.23).

Burger discloses, as in claim 11, the lens array unit wherein the first lens surfaces are diametrically greater than the throughholes of the light shield (col.31, lines 19-30).

Burger discloses, as in claim 12, a lens array unit (fig.23) comprising: a lens array (510b1) provided with a plurality of lenses (505b) and a transparent holder (#324, fig.18) formed integral with the lenses, each of the lenses having a first convex lens surface for incident light and a second lens surface; and a light shield (512) formed with a plurality of through holes facing the first lens surfaces; wherein the light shield is arranged on a side of the lens array where the first convex lens surfaces are formed (fig.23).

Burger discloses, as in claim 13, a lens array unit (fig.23) comprising: a first lens array (510b1) provided with a plurality of first convex lenses (505b) arranged in a line, each of the first lenses having first and second lens surfaces; a second lens array (510b) provided with a plurality of second convex lenses arranged in a line, each of the second lenses having third and fourth lens surfaces, at least either one of the third and fourth lens surfaces being convex, the second lens array being separate from the first lens array and attached (fig.18) to the first lens array so that the third lens surfaces face the second lens surfaces; and light shielding means (512) for partially covering said at

least either one of the third and the fourth lens surfaces of each second lens which is convex.

Burger discloses, as in claim 14, the lens array unit wherein the light shielding means comprises a dark-colored layer (col.30, lines 39-67, opaque) formed directly on at least either one of the third and the fourth lens surfaces of each second lens.

Burger discloses, as in claim 15, the lens array unit wherein the first lens array is formed with grooves (trenches) for optically separating the first lenses from each other, each of the grooves being provided with a dark-colored light shielding member (col.30, lines 39-67, opaque).

Burger discloses, as in claim 16, the lens array unit wherein each of the first and the second lens arrays is provided with a holder (#324, fig.18) formed integral with the convex lenses.

Burger discloses, as in claim 17, the lens array unit wherein the holder of the first lens array includes obverse and reverse surfaces (fig.23) spaced from each other in an axial direction of the first lenses, the obverse and the reverse surfaces being covered with light shielding means (col.30, lines 39-67).

Burger discloses, as in claim 18, the lens array unit wherein the holder of the second lens array includes obverse and reverse surfaces (fig.23) spaced from each other in an axial direction of the second lenses, at least either one of the obverse and the reverse surfaces being covered with light shielding means (col.30, lines 39-67).

Burger discloses, as in claim 19, a lens array (fig.23) comprising: a plurality of lenses (505b) arranged in a line and each having a convex lens surface; and light

shielding means (512) for partially covering the convex lens surface; wherein the convex lens surface includes peripheral portions spaced from each other along said line, the light shielding means covering the peripheral portions (fig.23).

Burger discloses, as in claim 20, a method of forming an image (508) of an object (506), the method comprising the steps of: preparing a lens array unit (fig.23) which includes a first lens array (510b1) provided with first lenses (505b) and a second lens array (510b2) provided with second lenses, the first lens array being arranged closer to said object than the second lens array is, each of the second lenses having a light inlet surface and a light outlet surface, at least either one of the light inlet surface and the light outlet surface being convex; and partially shielding (512) said at least either one of the light inlet surface and the light outlet surface which is convex for adjusting brightness of light spots formed along a predetermined focal line (fig.23).

Response to Arguments

3. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new grounds of rejection. Burger discloses two separate lens arrays wherein a light shield is located on a side

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references are being cited or disclosing a plurality

of convex lens arrays having light shields: Dietch (3733976); Itonaga et al. (5636056); Sawaki et al. (5648874); Yoshikawa et al. (2003/0021034).

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary O'Neill whose telephone number is 703-306-4828. The examiner can normally be reached on Monday - Thursday, 6:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y Epps can be reached on 703-308-4883. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7725 for regular communications and 703-308-7725 for After Final communications.

Application/Control Number: 09/823,762 FUJIMOTO



Page 8

Art Unit: 2873

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Gary O'Neill
Examiner
Art Unit 2873

GO
March 17, 2003



EVELYN LESTER
PRIMARY EXAMINER